PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Hans-Ulrich MORITZ et al.

Serial No.: 09/719,874

Filed: January 4, 2001

For: Taylor Reactor for Materials Conversion in the Course of which a Change in Viscosity v of the Reaction Medium Occurs

Docket No.: IN-5439

Group Art Unit: 1725

Examiner: Len Tran

I hereby certify that the attached correspondence is being transmitted via facsimile addressed to Commissioner for Patents, PO BOX 1450, Alexandria, VA 22313-1450, on the date shown below to facsimile number 1-703-872-9306.

11-5-04 Michael Morgan
Date

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL SHEET

Enclosed are:	Pages
This Transmittal Page in duplicate	2
Fee Transmittal in duplicate	2
Appeal Brief	8
Total pages	12

CONDITIONAL PETITION FOR EXTENSION OF TIME

Applicant believes that no extension of time is required. This conditional petition of time is being made, however, to provide for the possibility that applicants have inadvertently overlooked the need for a petition for extension of time. In this event, please charge Deposit Account 23-3425 the necessary extension of time fees. This document is submitted in duplicate.

AUTHORIZATION TO CHARGE DEPOSIT ACCOUNT

The Director - U.S. Patent and Trademark Office is hereby authorized to charge Deposit Account 23-3425 any fees necessary for entry of any of the above listed documents. This document is submitted in duplicate.

Respectfully submitted,

Michael F. Morgan, Esq. (Reg. No. 42,906)
(248) 948-2355
BASF Corporation
26701 Telegraph Road
Southfield, MI 48034-2442

Date: November 5, 2004

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FEE TRANSMITTAL

For FY 2005

Patent fees are subject to annual revision.

Application Number	09/719,874
Filing Date	January 4, 2001
First Named Inventor	Hans-Ulrich MORITZ
Examiner Name	Len Tran
Art Unit	1725
Attorney Docket No.	IN-5439
Express Mail Certificate	
Customer Number	26922

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TOTAL AMOUNT OF PAYMENT $340.00

METHOD OF PAYMENT (check all that apply)

[X] Deposit Account [ ] Credit Card [ ] Check

Deposit Account Number: 02-1201

Deposit Account Name: BASF CORPORATION

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[x] Charge any additional fee(s) or any underpayment of fee(s)

[ ] Charge fee(s) indicated below, except for the filing fee

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FEE CALCULATION

1 BASIC FILING FEE

Large Entity

Fee	Code	Fee Description	
1001	790	Utility filing fee	$
1002	350	Design filing fee	
1003	550	Plant filing fee	
1004	790	Reissue filing fee	
1005	160	Provisional filing fee	
		SUBTOTAL (1)	$

2. EXTRA CLAIM FEES

	Extra Claims		Fee from below		Fee Paid
Total Claims	0	-20** = 0	x 18	=	$
Independent Claims	0	- 3** = 0	x 84	=	$
Multiple Dependent			280	=	

**Or number previously paid, if greater; For Reissues, see below

Large Entity

Fee Code	Fee ($)	Fee Description
1202	18	Claims in excess of 20
1201	88	Independent claims in excess of 3
1203	300	Multiple dependent claims, if not paid
1204	88	**Reissue independent claims over original patent
1205	18	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITION FEES

Large Entity

Fee Code	Fee ($)	Fee Description	Fee Paid
1051	130	Surcharge –late filing fee or oath	
1052	50	Surcharge-late provisional fee or Cover sheet	
1053	130	Non-English specification	
1812	2,520	For filing a request for ex parte reexamination	
1804	920*	Requesting publication of SIR prior to Examiner action	
1850	1 840*	Requesting publication of SIR after Examiner action	
1251	110	Extension for reply within first month	
1252	430	Extension for reply within second month	
1253	980	Extension for reply within third month	
1254	1,530	Extension for reply within fourth month	
1255	2,080	Extension for reply within fifth month	
1401	340	Notice of Appeal	
1402	340	Filing a brief in support of an appeal	340
1403	300	Request for oral hearing	
1451	1.510	Petition to institute public use proceeding	
1452	110	Petition to revive-unavoidable	
1453	1,370	Petition to revive-unintentional	
1501	1,370	Utility issue fee (or reissue)	
1502	490	Design issue fee	
1503	660	Plant issue fee	
1460	130	Petitions to the Commissioner	
1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	Submission information Disclosure Stmt	
8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	790	For each additional invention to be examined (37 CFR 1.129(b))	
1801	790	Request for Continued Examination (RCE)	
1802	900	Request for expedited examination of a design application	
1814	110	Terminal Disclaimer Fee	

Other fee (specify) _____

Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($)340

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Name (print Type)	Michael Morgan	Registration No. (Attorney Agent)		42906	

FEE TRANSMITTAL

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Name (print Type)	Michael Morgan	Registration No. (Attorney Agent)	42906		

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11-5-04
Date

Michael Morgan
Michael Morgan

Commissioner for Patents

PO BOX 1450

Alexandria, VA 22313-1450

APPEAL BRIEF

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The real party in interest in this appeal is BASF Coatings Aktiengesellschaft by virtue of an assignment, which was recorded at Reel/Frame: 011450/0028 on January 8, 2001.

RELATED APPEALS AND INTERFERENCES

There are no other related appeals or interferences.

STATUS OF THE CLAIMS

Claims 1-28 are pending in this application. Claims 1-12 and 20-28 are rejected. Claims 1-12 and 20-28 are appealed. Claims 13-19 are withdrawn from consideration, and they are subject to Rejoinder under MPEP 821.04 as being directed to a method of using the article.

STATUS OF AMENDMENTS

No amendments to the claims have been filed after the mailing of the final rejection.

SUMMARY OF THE INVENTION

The present invention is directed to a Taylor reactor comprising a) an annular reactor volume defined by an external reactor wall, a concentrically or eccentrically disposed rotor that extends the length of the reactor, a reactor floor, and a reactor lid, b) at least one means for metered addition of reactants into the annular reactor volume, and c) a means for the discharge of product from the annular reactor volume, wherein d) during a conversion within the annular reactor volume there is a change in a viscosity v of a reaction medium, e) one or more of the reactor wall and the rotor are geometrically designed such that the conditions for Taylor vortex flow are met over essentially the entire reactor length of the annular reactor volume, and f) the reactor is not mounted horizontally, and the discharge means is mounted higher that the metered addition means so that a flow through the reactor is counter to gravity., The Taylor reactor is described at page 6, line 15 to page 7, line 5 and page 9, line 23 to page 10, line 3 in the specification.

GROUNDS OF REJECTION

Claims 1-9 and 20-24 are rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,188,808 to Lilja et al.

Claims 1, 10-12, and 25-28 are rejected under 35 U.S.C. §102(b) as being anticipated by GB 1358157.

ARGUMENT

In Lilja '808, an impeller (6) is disclosed as being disposed in the reactor. An impeller is not a rotor as is defined within the specification at page 8, line 22 to page 9, line 3. In Lilja '808, there can be a protective lane (7) and a flow reverser (8) in the reactor, but there is no disclosure that either of these structures extend the length of the reactor.

In claim 1, the rotor has the shape defined in the specification at page 8, line 22 to page 9, line 3. The impeller in Lilja '808 does not describe the rotor as it is defined. Also, the rotor extends the length of the reactor. Lilja does not disclose a structure as defined by the term rotor that is disposed the length of the reactor. Therefore, it is respectfully submitted that claims 1-9 and 20-24 are not anticipated by United States Patent No. 5,188,808 to Lilja et al.

GB1358157 discloses that the reactor can be positioned in a horizontal position (page 3, lines 95-104). The reactor can be positioned in a vertical or inclined position (page 3, lines 95-104), but the inlet is higher than the outlet so that flow through the reactor is assisted by gravity. The inlet (6) is in an upper portion of the reactor, and the outlet is in a lower portion of the reactor (page 3, lines 64-69). There is no disclosure of providing an inlet that is lower than the outlet so that flow is counter to gravity.

In claim 1, the reactor is not mounted horizontally, and the discharge means is mounted higher that the metered addition means so that a flow through the reactor is counter to gravity. Because there is no disclosure of this arrangement in GB 1358157, it is respectfully submitted that claims 1, 10-12, and 25-28 are not anticipated by GB1358157.

FOR THESE REASONS, Applicants respectfully petition this Honorable Board to reverse the rejection set forth by the Examiner. Should the Board have any questions about the above remarks, the undersigned attorney would welcome a telephone call.

Respectfully submitted,

Michael F. Morgan, Esq. (Reg. No. 42,906)
(248) 948-2355
BASF Corporation
26701 Telegraph Road
Southfield, MI 48034-2442

Date: November 5, 2004

APPENDIX

CLAIMS INVOLVED IN THIS APPEAL

1. (Previously Presented) A Taylor reactor for conducting material conversions, comprising:

   a) an annular reactor volume defined by an external reactor wall, a concentrically or eccentrically disposed rotor that extends the length of the reactor, a reactor floor, and a reactor lid,

   b) at least one means for metered addition of reactants into the annular reactor volume, and

   c) a means for the discharge of product from the annular reactor volume,

   wherein

   d) during a conversion within the annular reactor volume there is a change in a viscosity v of a reaction medium,

   e) one or more of the reactor wall and the rotor are geometrically designed such that the conditions for Taylor vortex flow are met over essentially the entire reactor length of the annular reactor volume, and

   f) the reactor is not mounted horizontally, and the discharge means is mounted higher that the metered addition means so that a flow through the reactor is counter to gravity.

2. (Previously Presented) The Taylor reactor of claim 1, wherein the external reactor wall and the rotor rotate in the same direction, the angular velocity of the rotor being greater than that of the external reactor wall.

3. (Previously Presented) The Taylor reactor of claim 1, wherein the external reactor wall and the rotor have an essentially circular circumference over the entire reactor length, as viewed in cross section.

4. (Previously Presented) The Taylor reactor of claim 1, which is mounted vertically, the reaction medium being moved against gravity.

5. (Previously Presented) The Taylor reactor of claim 1, wherein the rotor is mounted centrically.

6. (Previously Presented) The Taylor reactor of claim 1, wherein the means for the discharge of the product is disposed at the highest point of the reactor lid.

7. (Previously Presented) The Taylor reactor of claim 1, wherein one or more of the external reactor wall and the rotor (2) are geometrically designed such that an annular gap widens in the flow direction.

8. (Previously Presented) The Taylor reactor of claim 7, wherein the circumference of the external reactor wall (1) increases in the flow direction.

9. (Previously Presented) The Taylor reactor of claim 7, wherein the external reactor wall has the form of a single frustum.

10. (Previously Presented) The Taylor reactor of claim 1, wherein one or more of the external reactor wall and the rotor are geometrically designed such that an annular gap narrows in the flow direction.

11. (Previously Presented) The Taylor reactor of claim 10, wherein the circumference of the external reactor wall (1) reduces in the flow direction.

12. (Previously Presented) The Taylor reactor of claim 10, wherein the external reactor wall has the form of a single frustum.

13. (Withdrawn) A process for converting substances, comprising converting a substance in the Taylor reactor of claim 1,

wherein under the conditions of Taylor vortex flow, a viscosity v of a reaction medium increases in the course of a reaction.

14. (Withdrawn) The process of claim 13, wherein a first reaction takes place in a first flow-traversed subsection of the Taylor reactor and one or more additional reactions take place in one or more additional subsections as viewed in an axial flow direction downstream of at least one further means for metered addition of reactants.

15. (Withdrawn) A process for preparing addition polymers, copolymers, block copolymers and graft copolymers, polycondensation products and polyaddition products, core/shell latices, polymer dispersions, products of polymer- analogous reactions such as the esterification, amidation or urethanization of polymers containing side groups suitable for such reactions, olefinically unsaturated materials curable with electron beams or ultraviolet light, or mesophases, comprising using the process of claim 13.

16. (Withdrawn) A process for converting substances, comprising
converting a substance in the Taylor reactor of claim 1,
wherein under the conditions of Taylor vortex flow, a viscosity v of a reaction medium falls in the course of a reaction.

17. (Withdrawn) The process of claim 16, wherein a first reaction takes place in a first flow-traversed subsection of the Taylor reactor and one or more additional reactions take place in one or more additional subsections as viewed in an axial flow direction downstream of at least one further means for metered addition of reactants.

18. (Withdrawn) A process for the breakdown of high molecular mass comprising using the process claim 16.

19. (Withdrawn) A process for making moldings, paints, adhesives and other coating materials and films, comprising using as components thereof, substances prepared by the process of claim 13.

20. (Previously Presented) The Taylor reactor of claim 1, wherein the external reactor wall is stationary while the rotor rotates.

21. (Previously Presented) The Taylor reactor of claim 8, wherein the circumference of rotor (2) remains constant.

22. (Previously Presented) The Taylor reactor of claim 8, wherein the circumference of rotor (2) increases.

23. (Previously Presented) The Taylor reactor of claim 8, wherein the circumference of rotor (2) decreases.

24. (Previously Presented) The Taylor reactor of claim 7, wherein the external reactor wall is composed of a plurality of frusta.

25. (Previously Presented) The Taylor reactor of claim 11, wherein the circumference of the rotor remains constant.

26. (Previously Presented) The Taylor reactor of claim 11, wherein the circumference of the rotor increases.

27. (Previously Presented) The Taylor reactor of claim 11, wherein the circumference of the rotor decreases.

28. (Previously Presented) The Taylor reactor of claim 12, wherein the external reactor wall is composed of a plurality of frusta.